This listing of claims will replace all prior versions, and listings, of claims in the application:

Claim 1 (currently amended): For use with a node of a communications network, a method for setting up a connection in response to a request, the method comprising:

a) determining a next link of the connection based on routing information;

b) determining whether the determined next link of the connection has sufficient capacity to meet that requested by the request;

c) if the determined next link of the connection is determined to not have sufficient capacity to meet that requested by the request, repeating (b) and (c) at least once to try an alternative next link;

d) if the determined next link of the connection is determined to have sufficient capacity to meet that requested by the request, then updating connection admission control information ~~to decrease the capacity of the link~~ to reflect the capacity requested by the request.

Claim 2 (original): The method of claim 1 wherein if the determined next link of the connection is determined to have sufficient capacity to meet that requested by the request, then further requesting a connection identifier.

Claim 3 (original): The method of claim 2 further comprising:

e) accepting a requested connection identifier received; and

f) providing an interface number and allocation control information to an interface associated with the interface number.

Claim 4 (original): The method of claim 3 further comprising:

g) if an interface receives an interface number and allocation control information associated with the interface number, then

i) determining a bit-vector corresponding to the interface number,

ii) determining a first available part of the link, and

iii) marking the bit vector such that bits corresponding to the determined first available part of the link are marked as unavailable.

Claim 5 (original): The method of claim 4 wherein the link is a time division multiplexed link.

Claim 6 (original): The method of claim 4 wherein the link is a wavelength division multiplexed link.

Claim 7 (original): The method of claim 1 further comprising:

e) accepting allocated capacity information;

f) updating switch mapping information in response to the received allocated capacity information; and

g) updating state information based on the allocated capacity information.

Claim 8 (original): The method of claim 3 further comprising:

g) accepting allocated capacity information;

h) updating switch mapping information in response to the received allocated capacity information;

i) updating state information based on the allocated capacity information; and

h) generating a set up message including the connection identifier and the interface.

Claim 9 (currently amended): For use with a node of a communications network, the node having interfaces terminating communications links, an apparatus for setting up a connection in response to a request, the apparatus comprising:

a) at least one storage device storing

i) routing information;

ii) connection admission control information; and

b) a programmable device adapted to

i) determine a next link of the connection based on the routing information;

ii) determine whether the determined next link of the connection has sufficient capacity to meet that requested by the request of the call;

iii) repeat (ii) and (ii) at least once to try an alternative next link if the next link of the connection is determined to not have sufficient capacity to meet that requested by the request; and

iv) update the connection admission control information ~~to decrease the capacity of the link~~

to reflect the capacity requested by the request if the determined next link of the connection is determined to have sufficient capacity to meet that requested by the request.

Claim 10 (original): The apparatus of claim 9 wherein the programmable device is a field programmable gate array.

Claim 11 (original): The device of claim 9 wherein the programmable device is further adapted to request a connection identifier if the determined next link of the connection is determined to have sufficient capacity to meet that requested by the request.

Claim 12 (original): The device of claim 11 wherein the programmable device is further adapted to

- accept a requested connection identifier; and
- provide an interface number and allocation control information to an interface associated with the interface number.

Claim 13 (original): The device of claim 12 wherein the programmable device is further adapted to

- if an interface receives an interface number and allocation control information associated with the interface number, then
  - i) determining a bit-vector corresponding to the interface number,
  - ii) determining a first available part of the link, and

iii) marking the bit vector such that bits corresponding to the determined first available part of the link are marked as unavailable.

Claim 14 (original): The device of claim 13 wherein the link is a time division multiplexed link.

Claim 15 (original): The device of claim 13 wherein the link is a wavelength division multiplexed link.

Claim 16 (original): The device of claim 9 wherein the programmable device is further adapted to

- accepting allocated capacity information;
- updating switch mapping information in response to the received allocated capacity information; and
- updating state information based on the allocated capacity information.

Claims 17-19 (withdrawn)

Claim 20 (canceled)

Claim 21 (currently amended): The method of claim 22 ~~20~~ wherein the communications resources is bandwidth.

Claim 22 (currently amended): For use in call signaling protocol, a method for use by a node of a communications network to determine a link of a connection, the method comprising:

a) determining a next hop of the connection based on routing information;

b) determining a link associated with the determined next hop;

c) determining whether or not the determined link has sufficient communications resources to satisfy the call; and

d) only if it is determined that the determined link has sufficient communication resources to satisfy the call, then allocating communication resources of the link to the call,

~~The method of claim 20~~ wherein the link is a multiplexed link having channels, and

wherein the act of allocating communication resources of the link to the call includes determining available channels of the link until the sum of capacity of the determined available channels is enough to satisfy the call.

Claim 23 (original): The method of claim 22 wherein the link is a time division multiplexed link and wherein the channels are time-slots.

Claim 24 (original): The method of claim 22 wherein the link is a wavelength division multiplexed link and wherein the channels are wavelengths.

Claim 25 (canceled)

Claim 26 (currently amended): The apparatus of claim 27 ~~25~~ wherein the communications resources is bandwidth.

Claim 27 (currently amended): For use in call signaling protocol, a method for use by a node of a communications

network to determine a link of a connection, the method comprising:

a) determining a next hop of the connection based on routing information;

b) determining a link associated with the determined next hop;

c) determining whether or not the determined link has sufficient communications resources to satisfy the call; and

d) only if it is determined that the determined link has sufficient communication resources to satisfy the call, then allocating communication resources of the link to the call,

~~The apparatus of claim 25~~ wherein the link is a multiplexed link having channels, and

wherein the means for allocating communication resources of the link to the call includes means for determining available channels of the link until the sum of capacity of the determined available channels is enough to satisfy the call.

Claim 28 (original): The apparatus of claim 27 wherein the link is a time division multiplexed link and wherein the channels are time-slots.

Claim 29 (original): The apparatus of claim 27 wherein the link is a wavelength division multiplexed link and wherein the channels are wavelengths.

Claim 30 (new): The method of claim 1 wherein the act of updating connection admission control information to reflect the capacity requested by the request if the

determined next link of the connection is determined to have sufficient capacity to meet that requested by the request, includes decreasing the capacity of the link.

Claim 31 (new): The apparatus of claim 9 wherein the programmable device is adapted to update the connection admission control information to decrease the capacity of the link to reflect the capacity requested by the request if the determined next link of the connection is determined to have sufficient capacity to meet that requested by the request.